

Application No. 09/940,494
Reply dated December 9, 2003
Response to Office Action dated June 19, 2003

REMARKS/ARGUMENTS

Applicants have amended claim 2 to incorporate all limitations of claim 1 from which it depends, and cancelled claim 1. No issues of new matter are raised and entry and favorable reconsideration of the claims are respectfully requested.

Applicants gratefully acknowledge the indication that Claims 7 and 8 are allowable, if amended to incorporate all elements of the claims from which they depend.

1. Restriction Requirement

In response to the Restriction Requirement, Applicants affirm their election of claims in Group 1, with traverse.

2. Objection to Drawings

A corrected drawing sheet containing formal drawings is submitted herewith, which is believed to have overcome the objections.

3. Claim Rejections under 35 U.S.C. § 103

The present invention is directed at a process for continuous coagulation and drying of rubber latex, comprising passing a stream of latex through a coagulator to form a coagulated rubber stream, introducing the coagulated rubber stream from the coagulator into a dryer downstream of the coagulator, and passing the coagulated rubber stream through the dryer to dry the rubber, in which the latex stream in the coagulator is heated by a combination of microwave energy and hot air.

The Office Action rejected pending claims 1-6, relying on various references. Applicants respectfully traverse, and detail their reasons below.

In rejecting claims 1-3 and 5 as obvious, the Office Action first cited Hawkes in view of Forster *et al.* Hawkes, however, discloses a process for *in situ*

manufacturing of gaskets in a single device, by simultaneous coagulation and curing. It has nothing to do with coagulating latex which is used for further processing and curing or vulcanization. Furthermore, Hawkes does not mention anything about a continuous stream of rubber latex on a conveyor belt; what was on the conveyor belt is the closures containing the latex for foaming etc. The use of microwave was for curing, as the rubber when heated at a high temperature of 160-180°C, will be cured, and cannot be further processed. This is a process quite different from latex coagulation and drying.

On the other hand, Forster *et al.* relates to a post-coagulation drying process of rubber, and is not related to rubber coagulation. The use of two microwave ovens and different frequencies are both for drying process, and the microwave/heat combinations is for drying, not for coagulation. The materials to be dried, ranging from food articles to paper fiber, are transported in a pneumatic conveyor. It does not disclose a continuous stream of rubber latex on a conveyor belt either.

Therefore, these two references, even if combined, does not disclose a process of rubber coagulation using a combination of heat and microwave energy wherein a stream of rubber latex is passed on a conveyor belt. Because the references cited do not disclose all elements of the claimed invention, applicants respectfully submit that the Office Action has failed to establish a *prima facie* case of obviousness and the rejections relying on these two references are improper and should be withdrawn. To further expedite prosecution, applicants have made Claim 2 the independent claim, emphasizing that the temperature of the claimed process is in the range of from 30°C to 90°C, which is a coagulation temperature range, rather than the curing temperature or drying temperature, which is considerably higher. Applicants respectfully submit that this amendment further renders the claims free of the prior art.

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With regard to Claim 3, the Office Action simply asserts that “it would have been obvious ... to determine the optimum thickness of the latex being transported on the conveyor belt into an oven.” This assertion is improper. Without knowing what the purpose of the process is, it is impossible to optimize the process, as an optimal thickness for drying or curing coagulated rubber is different for coagulating rubber latex. In any event, because Claims 2, 3, and 5 all depend from Claim 1, which as indicated above is not *prima facie* obvious, these claims are not *prima facie* obvious either.

The Office Action further relied upon Argy *et al.* in view of Giiuak *et al.*, or Hawkes *et al.*, to reject claims 1-5 as obvious under 35 U.S.C. § 103(a). Argy *et al.* discloses a process for foaming cellulose and latex mixture, followed by coagulating and curing, separately or in a single container. Microwave energy is used for heating in a subsequent drying process, rather than in the coagulation process, as in the instantly claimed process. More importantly, because of the foaming step, the process of Argy *et al.* cannot use a continuous stream of rubber latex on a conveyor belt. Giiurak *et al.* relates to a chemical coagulation and drying process. It provides appropriate temperature via heating coagulant solution, and does not use microwave or hot air. The entire disclosure of Giiurak *et al.* contains no mention of microwave or conveyor belt. Thus, elements of the claimed invention, i.e. a continuous stream of rubber latex on a conveyor belt and a combination of microwave energy and heat for coagulating rubber latex, are not disclosed by either of the cited references. As discussed above, Hawkes *et al.* does not remedy this deficiency in the art. Accordingly, applicants respectfully submit that the Office Action failed to establish a *prima facie* case of obviousness and the rejections of Claims 1-5 over these references are improper and should be withdrawn.

Similarly, the rejection of Claim 6 in the Office Action, further in reliance of Collins *et al.*, is improper and should be withdrawn, because Claim 6 depends

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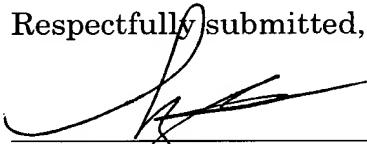
from Claim 1, and Collins *et al.*, which discloses no belt or is related to rubber latex, does not remedy the deficiencies of Hawkes, Argy *et al.*, and Forster *et al.*

In conclusion, applicants respectfully submit that all claims are now in condition for allowance, and earnestly solicit an early indication from the Examiner to that effect. If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (CAM #: 010767.50045US).

Respectfully submitted,

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